

# SeaPRO Series 50 Hz

Seawater Desalination Machines 35,000 ppm NaCl  
100-300 m<sup>3</sup>/day (20-60 gpm)

## Basic Features (BAS)

- GE Fanuc Quick Panel 6", 6-inch color display, Primarily text operating screens, Touchscreen controls
- GE Fanuc Micro VersaMax, Communication: RS232/DH485, Analog output: 6 points
- 4-20 mA instruments displayed on instrument center
- Variable frequency drive (VFD) for high pressure pump
- Stand alone master control enclosure, skid mounted local control enclosure with terminal strips

## Premium Features (PRE)

- GE Fanuc QuickPanel 12" , 12-inch color display, Text and pictorial operating screens, Touchscreen controls
- GE Fanuc VersaMax, Communication: RS232/DH485/Ethernet, Analog output: 4 points
- 4-20 mA instruments on PanelView
- Primary and final pressure transmitters
- Variable frequency drive (VFD) for high pressure pump
- Automated valves and control for full permeate flush upon shut down
- Stand alone master control enclosure, skid mounted local control enclosure with remote I/O

## Instrumentation

Flow Meters..... Permeate, concentrate  
Conductivity..... Permeate  
pH.....Feed



## Instrumentation (continued)

Pressure ..... Pre-filter, post-filter, primary, final, permeate concentrate, pump discharge (PRE Feature = Primary, Final transmitter)  
Pressure Switch ..... Feed, permeate, concentrate  
Instrument center..... Thornton 770 MAX

## Options Available

- Allen Bradley control system
- Multi-Media filters
- Clean-in-Place (CIP) units
- Chemical feed systems

## Documentation Included

- Operation and maintenance manual
- Control narrative
- Drawings: piping and instrumentation, electrical and general dimensional

## Operating Parameters

Recovery ..... 40 - 45%  
Design temp..... 25°C (77°F)  
Design Feed TDS..... 35,000 ppm NaCl  
Operating range..... 2 to 30°C (35 to 85°F)  
Minimal inlet pressure ..... 2 Bar (30 psi)

a product of  
**ecomagination**<sup>SM</sup>



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## Materials of Construction

High-pressure piping.....Sch. 10, Duplex 2205  
 Low-pressure piping.....Sch. 80, PVC  
 Frame.....Painted carbon steel  
 Local Enclosure.....FRP, NEMA 4X  
 Main Enclosure.....Painted carbon steel, NEMA 4  
 VFD Enclosure.....Painted carbon steel, NEMA 4  
 Clamps/fittings.....Zinc-plated

## Membrane Elements and Housings

Style.....Spiral-wound elements  
 Membrane type.....TFC HR (Polyamide)  
 Element Area.....37.2 m<sup>2</sup>  
 Average membrane flux.....13.5-17 l/mh  
 Housing material.....FRP, 80 Bar (1200 psi)  
 Housing closure type.....Ring and plate style closure

## Cartridge Filtration

Housing material.....GRP (glass reinforced plastic)  
 Cartridge filter.....5-micron nominal, ROsave.Z\*s

## SeaPRO Models

MODEL	SeaPRO-8	SeaPRO-16	SeaPRO-28
Permeate rate:	100 m <sup>3</sup> /day (18.3 gpm)	200 m <sup>3</sup> /day (36.7 gpm)	300 m <sup>3</sup> /day (55.0 gpm)
Concentrate Rate:	150 m <sup>3</sup> /day (27.5 gpm)	244 m <sup>3</sup> /day (44.8 gpm)	367 m <sup>3</sup> /day (67.3 gpm)
Feed Rate:	250 m <sup>3</sup> /day (45.8 gpm)	444 m <sup>3</sup> /day (81.5 gpm)	667 m <sup>3</sup> /day (122.3 gpm)
<b>Pumps and Motors</b>			
Model:	MSS 1547	MSS 2026	MSS 3024
Manufacturer:	Osmonics/FEDCO™	Osmonics/FEDCO™	Osmonics/FEDCO™
Quantity:	1	1	1
Motor HP and type:	29.9 kW (40 Hp) TEFC	37.3 kW (50 Hp) TEFC	74.6 kW (100 Hp) TEFC
Design Flow Rate:	10.5 m <sup>3</sup> /hr (46.28 gpm)	18.5 m <sup>3</sup> /hr (81.5 gpm)	28 m <sup>3</sup> /hr (123.3 gpm)
Design boost pressure:	45.9 Bar (665 psig)	46.2 Bar (670 psig)	45.5 Bar (660 psig)
<b>Energy Recovery Booster</b>			
Model:	HPB 20	HPB 20	HPB 30
Manufacturer:	Osmonics/FEDCO™	Osmonics/FEDCO™	Osmonics/FEDCO™
Quantity:	1	1	1
Design boost pressure:	17.9 Bar (260 psig)	18.6 Bar (255 psig)	18.6 Bar (270 psig)
<b>Membrane Elements and Housings</b>			
Membranes quantity:	8	16	28
Memb. housing style:	4 element long, 4 port	4 element long, 4 port	4 element long, 4 port
Banking Arrangement:	1→1	2→2	4→3
<b>Cartridge Filtration</b>			
Cartridge Filter:	ROZs05-40XK	ROZs05-40XK	ROZs05-40XK
Filter Length:	40" (102 cm)	40" (102 cm)	40" (102 cm)
Filter Quantity:	6 per change out	10 per change out	22 per change out
<b>Installation and Utility Requirements</b>			
Inlet:	1.5" flange	2.0" flange	3.0" flange
Permeate:	1.0" flange	1.5" flange	2.0" flange
Concentrate:	1.5" flange	1.5" flange	2.0" flange
Inlet Water Pressure:	2 Bar, minimum	2 Bar, minimum	2 Bar, minimum
Air Pressure:	7 Bar, oil-free	7 Bar, oil-free	7 Bar, oil-free
Drain to be Sized for:	250 m <sup>3</sup> /day (45.9 gpm)	444 m <sup>3</sup> /day (81.5 gpm)	667 m <sup>3</sup> /day (122.3 gpm)
Power:	220/380 VAC, 3-phase, 50Hz	220/380 VAC, 3-phase, 50Hz	220/380 VAC, 3-phase, 50Hz
Control Circuit:	220 VAC, 1-phase, 50Hz	220 VAC, 1-phase, 50Hz	220 VAC, 1-phase, 50Hz
<b>SeaPRO Skid</b>			
Height:	224 cm (88")	224 cm (88")	224 cm (88")
Width:	132 cm (52")	132 cm (52")	132 cm (52")
Depth:	506 cm (199")	506 cm (199")	506 cm (199")
Weight Estimate for Shipping Purposes:	1542 kg (3400 lb)	1814 kg (4000 lb)	2041 kg (4500 lb)

